AMENDMENTS TO THE CLAIMS

Please enter the following amendments.

1. **(Currently Amended)** A structure for the construction of one of a microscale and nanoscale device, comprising

a rigid frame supporting a diaphragm comprising a first material, the diaphragm having an opening therethrough,

a region of a second material disposed in the opening and supported by the diaphragm,

wherein the **diaphragm is in tension** ~~first material and the second material are different~~.

2. **(Original)** A structure as recited in claim 1, wherein the diaphragm comprises a layer of a silicon nitride.

3. **(Original)** A structure as recited in claim 1, wherein the second material comprises one of polyimides, photoresists, Parylene®, organic molecules, inorganic molecules, metal, and insulators.

4. **(Original)** A structure as recited in claim 1, wherein the second material comprises polyimide.

5. **(Original)** A structure as recited in claim 1, wherein the nanoscale device is nanopore.

6. **(Previously Presented)** A structure as recited in claim 2, wherein the silicon nitride layer is from 100 nm to 300 nm in thickness.

7. **(Previously Presented)** A structure as recited in claim 2, wherein the silicon nitride layer is about 200 nm thick.

8. **(Original)** A structure as recited in claim 1, wherein the width of the diaphragm is about 40 micometers.

9. **(Canceled)**

10. **(Original)** A structure as recited in claim 1, wherein the opening has a diameter of about 5 micrometers.

11. – 20. **(Canceled)**

21. **(Previously Presented)** A structure for the construction of one of a microscale and nanoscale device, comprising

a rigid frame supporting a diaphragm comprising a first material, the diaphragm having an opening therethrough,

a region of a second material disposed in the opening and supported by the diaphragm,

wherein the second material comprises polyimide.

22. **(Previously Presented)** A structure as recited in claim 21, wherein the diaphragm comprises a layer of silicon nitride.

23. **(Previously Presented)** A structure as recited in claim 21, wherein the nanoscale device is nanopore.

24. **(Previously Presented)** A structure as recited in claim 22, wherein the silicon nitride layer is from 100 nm to 300 nm in thickness.

25. **(Previously Presented)** A structure as recited in claim 22, wherein the silicon nitride layer is about 200 nm thick.

26. **(Previously Presented)** A structure for the construction of one of a microscale and nanoscale device, comprising

a rigid frame supporting a diaphragm comprising a first material, the diaphragm having an opening therethrough,

a region of a second material disposed in the opening and supported by the diaphragm,

wherein the opening has a diameter of about 5 micrometers.

27. **(Previously Presented)** A structure as recited in claim 26, wherein the diaphragm comprises a layer of a silicon nitride.

28. **(Previously Presented)** A structure as recited in claim 26, wherein the second material comprises one of polyimides, photoresists, Parylene®, organic molecules, inorganic molecules, metal, and insulators.

29. **(Previously Presented)** A structure as recited in claim 26, wherein the second material comprises polyimide.

30. **(Previously Presented)** A structure as recited in claim 26, wherein the nanoscale device is a nanopore.

31. **(New)** A structure for the construction of one of a microscale and nanoscale device, comprising

a rigid frame supporting a diaphragm comprising a first material, the diaphragm having an opening therethrough,

a region of a second material disposed in the opening and supported by the diaphragm,

wherein said region of a second material comprises a single nanopore.